

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT: SHUBER, ANTHONY P.

(ii) TITLE OF INVENTION: UNIVERSAL PRIMER SEQUENCE FOR MULTIPLEX
DNA AMPLIFICATION

(iii) NUMBER OF SEQUENCES: 65

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: RAE-VENTER LAW GROUP
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(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: 08/474,450
(B) FILING DATE: 7-JUNE-1995
(C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:

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(B) REGISTRATION NUMBER: 32,750
(C) REFERENCE/DOCKET NUMBER: GECO.001.00US

(ix) TELECOMMUNICATION INFORMATION:

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(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - int19"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

AGGCTTCTCA GTGATCTGTT G

21

(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 24 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: other nucleic acid
 - (A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER SEQUENCE - int19"

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

GAATCATTCA GTGGGTATAA GCAG

24

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: other nucleic acid
 - (A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER SEQUENCE - exon 19"

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

GCCCGACAAA TAACCAAGTG A

21

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: other nucleic acid
 - (A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER SEQUENCE - exon 19"

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

AGTCTAACAA AGCAAGCAGT G

21

(2) INFORMATION FOR SEQ ID NO:5:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid

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(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 21"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

TGATGGTAAG TACATGGGTG

20

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 21"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

CAAAAGTACC TGTTGCTCCA

20

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 22 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 9"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

CTTCTAATGG TGATGACAGC CT

22

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 24 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

20

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 9"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

CCACTGAAAA TAATATGAGG AAAT

24

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 13"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

AGGTAGCAGC TATTTTTATG G

21

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 13"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

TAAGGGAGTC TTTTGCACAA

20

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 4"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

TGTAGGAAGT CACCAAAG

18

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 4"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

CGATACAGAA TATATGTGCC

20

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 17b"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

GGAGTCCAAT TTCACTCAT .CTTG

24

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 17b"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

AGTTAATGAG TTCATAGTAC CTGTT

25

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER,
SEQUENCE - exon 7"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

AGATACTTCA ATAGCTCAGC C

21

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 23 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 7"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

GGTACATTAC CTGTATTTTG TTT

23

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 22 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 11"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

CAGATTGAGC ATACTAAAAG TG

22

(2) INFORMATION FOR SEQ ID NO:18:

23

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 22 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 11"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

TACATGAATG ACATTTACAG CA

22

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 10"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

GAGCCTTCAG AGGGTAAAT

20

(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 10"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

TCACATAGTT TCTTACCTCT

20

(2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 20"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

AAGAACTGGA TCAGGGAAGA

20

(2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 20"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

TCCTTTTGCT CACCTGTGGT

20

(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 19 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 5"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

GCTGTCAAGC CGTGTCTTA

19

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 23 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER

25

SEQUENCE - exon 5"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

GTATAATTTA TAACAATAGT GCC

23

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 14b"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

TTGGTTGTGC TGTGGCTCCT

20

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 22 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 14b"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

ACAATACATA CAAACATAGT GG

22

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 12"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

GACTCTCCTT TTGATACCT A

21

(2) INFORMATION FOR SEQ ID NO:28:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 12"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

GCATGAGCAT TATAAGTAAG G

21

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 3"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

GGCGATGTTT TTTCTGGAGA

20

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR 15-PLEX PRIMER
SEQUENCE - exon 3"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

ACAAATGAGA TCCTTACCCC

20

27

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 23 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR EXON 21 PRIMER
SEQUENCE - SS#1"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

CAAGTGAATC CTGAGCGTGA TTT

23

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR EXON 21 PRIMER
SEQUENCE - SS#1"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

CAAAAGTACC TGTTGCTCCA

20

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR EXON 21 PRIMER
SEQUENCE - SS#2"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

GAACTTGATG GTAAGTACAT GGGTG

25

(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR EXON 21 PRIMER
SEQUENCE - SS#2"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

AGTCAAAAGT ACCTGTTGCT CCAG

24

(2) INFORMATION FOR SEQ ID NO:35:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR EXON 21 PRIMER
SEQUENCE -SS#3"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

TGATGGTAAG TACATGGGTG

20

(2) INFORMATION FOR SEQ ID NO:36:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "CFTR EXON 21 PRIMER
SEQUENCE - SS#3"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

CAAAAGTACC TGTTGCTCCA

20

(2) INFORMATION FOR SEQ ID NO:37:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

29

(ii) MOLECULE TYPE: other nucleic acid
 (A) DESCRIPTION: /desc = "GCR 4-PLEX PRIMER SEQUENCE
 - exon 6"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

GGGTGGGAGG GTGGAGGCTA ATGG

24

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
 (A) DESCRIPTION: /desc = "GCR 4-PLEX PRIMER SEQUENCE
 - exon 6"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

CCAGAAGGTA GAAAGGTGAG

20

(2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 19 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
 (A) DESCRIPTION: /desc = "GCR 4-PLEX PRIMER SEQUENCE
 - exon 2"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

GAATGTCCCA AGCCTTTGA

19

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
 (A) DESCRIPTION: /desc = "GCR 4-PLEX PRIMER SEQUENCE
 - exon 2"

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

AAGCTGAAGC AAGAGAATCG

20

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

- (A) DESCRIPTION: /desc = "GCR 4-PLEX PRIMER SEQUENCE
- exon 9"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

TGCAACTACT GAGGCACTT

19

(2) INFORMATION FOR SEQ ID NO:42:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

- (A) DESCRIPTION: /desc = "GCR 4-PLEX PRIMER SEQUENCE
- exon 9"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

TACAATGATG GGACTGTCG

19

(2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

- (A) DESCRIPTION: /desc = "SCA 4-PLEX PRIMER SEQUENCE
- exon 9"

31

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

CATTTGCTTC TGACACAACT G

21

(2) INFORMATION FOR SEQ ID NO:44:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "SCA 4-PLEX PRIMER SEQUENCE
- exon 9"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

CCAAC TTCAT CCACG TTCAC C

21

(2) INFORMATION FOR SEQ ID NO:45:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "GCR 3-PLEX PRIMER SEQUENCE
- exons 9, 10, 11"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

CCTTGCCCTG AACCCCGAA

19

(2) INFORMATION FOR SEQ ID NO:46:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "GCR 3-PLEX PRIMER SEQUENCE
- exons 9, 10, 11"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

CTGACTCTGT CCCTTTAATG CCA

24

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "TS 3-PLEX PRIMER SEQUENCE -
exons 11, 12"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

GTGTGGCGAG AGGATATTCC A

21

(2) INFORMATION FOR SEQ ID NO:48:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "TS 3-PLEX PRIMER SEQUENCE -
exons 11, 12"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

TGGCTAGATG GGATTGGGTC T

21

(2) INFORMATION FOR SEQ ID NO:49:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "TS 3-PLEX PRIMER SEQUENCE -
exon 7"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

GGGTCCTACA ACCCTGTCAC CCAC

24

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "TS 3-PLEX PRIMER SEQUENCE -
exon 7"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

AAGCTTCACT CTGAGCATAA CAAG

24

(2) INFORMATION FOR SEQ ID NO:51:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "B-THALASSEMIA PRIMER
SEQUENCE - exons 1, 2, 3"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

GCTGTCATCA CTTAGACCTC

20

(2) INFORMATION FOR SEQ ID NO:52:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "B-THALASSEMIA PRIMER
SEQUENCE - exons 1, 2, 3"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

GCAAGAAAGC GAGCTTAGTG

20

(2) INFORMATION FOR SEQ ID NO:53:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

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- (ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "WT-1 PRIMER SEQUENCE - B"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

CTGAGTGAAT GGAGCGGC

18

(2) INFORMATION FOR SEQ ID NO:54:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "WT-1 PRIMER SEQUENCE - B"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

GGGTGAATGA GTAGGTGG

18

(2) INFORMATION FOR SEQ ID NO:55:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 17 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "WT-1 PRIMER SEQUENCE - F"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

CGGTGCTGGA CTTTGCG

17

(2) INFORMATION FOR SEQ ID NO:56:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "WT-1 PRIMER SEQUENCE - F"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

AAGTGGACAG TGAAGGCG

18

(2) INFORMATION FOR SEQ ID NO:57:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 18 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: other nucleic acid
 - (A) DESCRIPTION: /desc = "WT-1 PRIMER SEQUENCE - H"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

CCGTCTTGCG AGAGCACC

18

(2) INFORMATION FOR SEQ ID NO:58:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: other nucleic acid
 - (A) DESCRIPTION: /desc = "WT-1 PRIMER SEQUENCE - H"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

CTAATTTGCT GTGGGTTAGG

20

(2) INFORMATION FOR SEQ ID NO:59:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 23 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: other nucleic acid
 - (A) DESCRIPTION: /desc = "WT-1 PRIMER SEQUENCE - J"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

AGTTGTGTAT ATTTGTGGTT ATG

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(2) INFORMATION FOR SEQ ID NO:60:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs

- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "WT-1 PRIMER SEQUENCE - J"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

GTTACTGTGG AAAGGCAATG

20

(2) INFORMATION FOR SEQ ID NO:61:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "WT-1 PRIMER SEQUENCE - N"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

GAGATCCCCT TTTCCAG

17

(2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "WT-1 PRIMER SEQUENCE - N"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

CACAGCTGCC AGCAATG

17

(2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "WT-1 PRIMER SEQUENCE - O"

37

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

CTCACTGTGC CCACATTG

18

(2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "WT-1 PRIMER SEQUENCE - 0"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

CAATTTTCATT CCACAATAG

19

(2) INFORMATION FOR SEQ ID NO:65:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "Oligonucleotide primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

GCGGTCCCAA AAGGGTCAGT

20